

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

1. (currently amended) A lensed fiber, comprising:
an optical fiber; and
a coreless fiber formed into a lens having a tapered neck region and contiguous with a convex region, formed at the neck region attached to an end of the optical fiber, the neck region having an overall diameter smaller than an outer diameter of the optical fiber.
2. (original) The lensed fiber of claim 1, wherein an overall diameter of the lens does not exceed the outer diameter of the optical fiber.
3. (original) The lensed fiber of claim 2, wherein a radius of curvature of the convex region does not exceed half the outer diameter of the optical fiber.
4. (currently amended) The lensed fiber of claim 3 2, wherein the outer diameter of the optical fiber is approximately 125 μm .
- 5-6. (cancelled)
7. (original) The lensed fiber of claim 4, wherein the radius of curvature of the convex region does not exceed approximately 53 μm .
8. (currently amended) The lensed fiber of claim 7, wherein a maximum thickness of the lens is approximately 250 μm , wherein the thickness of the lens is measured from the interface between the neck region and the optical fiber to the tip of the convex region.
9. (original) The lensed fiber of claim 2, wherein a radius of curvature of the convex region is greater than half the outer diameter of the optical fiber.

10. (currently amended) The lensed fiber of claim 1, wherein the radius of curvature of the convex region is not smaller than a mode field radius at ~~a splice formed~~ an interface between the optical fiber and the neck region.

11. (cancelled)

12. (original) The lensed fiber of claim 1, wherein a back-reflection loss of the lens is -40 dB or lower without anti-reflection coating.

13. (original) The lensed fiber of claim 1, wherein a back-reflection loss of the lens is -55 dB or lower with anti-reflection coating.

14. (currently amended) The lensed fiber of claim 16, wherein a mode field diameter at a beam waist of the lens is approximately $13 \pm 1.5 \mu\text{m}$.

15. (currently amended) The lensed fiber of claim 16, wherein a mode field diameter at a beam waist of the lens is approximately $16 \pm 1.5 \mu\text{m}$.

16. (currently amended) The lensed fiber of claim 1, wherein a distance to beam waist of the lens is approximately $260 \pm 10 \mu\text{m}$ at 1550 nm, a radius of curvature of the convex region is approximately $62 \mu\text{m}$, and a thickness of the lens is approximately $285 \mu\text{m}$, wherein the beam waist is the location along a propagation direction of the lensed fiber where the radius of a beam propagated by the lensed fiber has a minimum radius and the thickness of the lens is measured from the interface between the neck region and the optical fiber to the tip of the convex region.

17. (original) The lensed fiber of claim 1, wherein a pointing error of the lens is less than $0.5 \mu\text{m}$.

18-32. (cancelled)